

GP-302524

**METHOD AND INTAKE CAM FOR RETAINING EXHAUST  
RESIDUALS FOR EMISSIONS REDUCTION IN A DIESEL ENGINE**

**ABSTRACT OF THE DISCLOSURE**

A diesel engine intake cam profile creates two intake valve events separated by a short dwell period each engine cycle. A relatively low valve lift during an engine exhaust event allows a portion of the exhaust gas to  
5 flow into an intake manifold and mix with intake air. The intake valve is then nearly closed for a dwell period until a normal intake valve opening occurs, drawing the mixture of air and exhaust gas back into the combustion chamber for compression and burning, upon closure of the intake valves.